What is claimed is:

1. An input buffered switch using pipelined simple matching, comprising:

a plurality of input means, each having a plurality of Virtual Output Queues (VOQs) for sending a request signal in every time slot when each VOQ has at least one cell, for outputting the cell according to a grant signal transmitted to each VOQ;

a scheduling means for executing a contention process according to the request signals from each VOQ of the plurality of input means, sending contention results to the plurality of input means and sending switch operation information; and

a switching means for outputting the cell received from the plurality of input means responsive to the switch operation information received from the scheduling means.

2. The apparatus as recited in claim 1, wherein the scheduling means includes:

a plurality of sub-scheduling means for executing a contention process for a plurality of time slots according to the request signals from each VOQ of the plurality of the input means in the manner that one sub-scheduler begins a contention process and another sub-scheduler finishes a contention process; and

a multiplexing means for multiplexing a contention result

of each sub-scheduling means to the plurality of input means.

3. The apparatus as recited in claim 2, wherein the each sub-scheduling means gives priorities to each of the input means in case of the contention process to the same output.

4. The apparatus as recited in claim 1, wherein each VOQ sends the request signal at every time slot by sending the number of cells waiting in the VOQ to the scheduling means.

5. The apparatus as recited in claim 4, wherein the scheduling means includes:

a plurality of sub-scheduling means for executing the contention process for a plurality of time slots according to the request signals from each VOQ of the plurality of the input means in the manner that one sub-scheduler begins a contention process and another sub-scheduler finishes a contention process; and

a multiplexing means for multiplexing a contention result of each sub-scheduling means to the plurality of the input means.

6. The apparatus as recited in claim 5, wherein the each sub-scheduling means gives a priority to the VOQ that has the largest number of awaiting cells in the VOQ in case of the contention process to the same output.

7. The apparatus as recited in claim 5, wherein the each sub-scheduling means gives a priority to each VOQ in the contention process to the same output and gives a priority to a VOQ that has the largest number of awaiting cells in the VOQ when the VOQ having the priority does not send the request signal.

8. A contention method using pipelined simple matching in an input buffered switch, comprising the steps of:

a) at each VOQ that has at least one awaiting cell, sending a request signal to a sub-scheduling means that begins a contention process at every time slot;

b) at the sub-scheduling means, executing a contention process for a plurality of time slots according to the request signals from each VOQ that has at least one awaiting cell;

c) at the sub-scheduling means that finishes the contention process, sending a contention result to each input means at every time slot; and

d) at the transfer-granted VOQ, transferring the cell to the switching means according to the contention result.

9. The method as recited in claim 8, wherein the each sub-scheduling means gives priority to each input means in the contention process to a same output.

10. The method as recited in claim 8, wherein each VOQ sends the request signal at every time slot by sending the

number of cells waiting in the VOQ to the scheduling means.

11. The method as recited in claim 10, wherein the each sub-scheduling means gives a priority to a VOQ that has the largest number of awaiting cells in the VOQ in the contention process to the same output.

12. The method as recited in claim 10, wherein the each sub-scheduling means gives a priority to each VOQ in the contention process to the same output and gives a priority to a VOQ that has the largest number of awaiting cells in the VOQ when the VOQ that has the priority does not send the request signal.